

REMARKS

The claims are claims 1 to 4, 7, 8 and 21.

Claim 1 is amended. Claim 1 is amended to make clear that the axis about which the first unit and said second unit coaxially disposed is "a second axis radially offset from said central axis." This amendment makes clear that this radially offset second axis is different than the central axis.

Claims 1 and 2 were rejected under 35 U.S.C. 103(a) as made obvious by the combination of Pulfrey U.S. Patent No. 5,493,620 and Saik et al U.S. Patent No. 4,312,118.

Claim 1 recites subject matter not made obvious by the combination of Pulfrey and Saik et al. Claim 1 recites "said first unit and said second unit disposed coaxially about an axis radially offset from said central axis." Claim 1 earlier recites "a voice coil aligned with the speaker cone along a central axis." This makes clear that the recited central axis is the joint axis of the voice coil and speaker cone. The OFFICE ACTION cites: velocity sensing structure 40 of Pulfrey as making obvious the recited variable reluctance sensor device; annular cylindrical permanent magnet 28 of Pulfrey as making obvious the recited first unit; and voice coil 30 of Pulfrey as making obvious the second unit offset from the axis. Inspection of Figures 1 and 2 of Pulfrey makes clear that velocity sensing structure 40, annular cylindrical permanent magnet 28 and voice coil 30 are coaxial with cone 21. The OFFICE ACTION cites Pulfrey at column 5, lines 5 to 20 as making obvious this limitation. This portion of Pulfrey states:

"The loudspeaker structure 20 includes a cone 21, a frame or basket 22, webs 23 and 24 and a main electromagnetic structure 25. The main electromagnetic structure 25 includes a rear cylindrical iron pole piece 26, an annular cylindrical permanent magnet 27, an inner annular cylindrical iron pole piece 28 and a thin voice coil nonconductive, nonmagnetic

support or bobbin 29. A voice coil 30 is fixedly positioned on the bobbin 29. A front annular cylindrical iron pole piece 32 is positioned about the voice coil 30 and spaced radially therefrom. The voice coil 30 is positioned in the air gap defined between the inner annular pole piece 28 and the front cylindrical pole piece 32, the longitudinal extent of the voice coil 30 is such that the same number of turns is always within the air gap, even at maximum deflections in either direction, a configuration usually referred to as 'overhang'."

The only teaching of remotely resembling the "second axis radially offset from the central axis" recited in claim 1 is "A front annular cylindrical iron pole piece 32 is positioned about the voice coil 30 and spaced radially therefrom." The Applicants respectfully submit that one skilled in the art viewing Pulfrey would understand front annular cylindrical iron pole piece 32 is coaxial with voice coil 30 and cone 21. This corresponds to the recited central axis and not the radially offset second axis of the first unit and the second unit recited in claim 1. The OFFICE ACTION cites voice coil 30 as making obvious the second unit recited in claim 1. Voice coil 30 clearly cannot have a second axis radially spaced offset from its own axis as required by the language of claim 1. The original application states at page 2, lines 22 and 23:

"Others have attempted to provide indication of speaker cone motion using a variety of electromagnetic coil structures coaxially arranged with the speaker voice coil."

Contrasting this invention with "structures coaxially arranged with the speaker voice coil" implies that the claimed structure is not coaxial with the speaker voice coil as taught in Pulfrey. Thus Pulfrey fails to make obvious the "said first unit and said second unit disposed coaxially about an axis radially offset from said central axis" limitation. Accordingly, claim 1 is allowable over the combination of Pulfrey and Saik et al.

The OFFICE ACTION states at page 2, lines 8 to 11:

"The examiner asserts that Pulfrey's 28 and 30 (read on first and second unit) read on the language as recited (see Figure 2). It is implicit that 28 and 30 are disposed coaxially about an axis."

The Applicant agrees that annular cylindrical permanent magnet 28 and voice coil 30 of Pulfrey are "disposed coaxially about an axis." The language of claim 1 requires more. Claim 1 requires that the first and second units be "disposed coaxially about a second axis radially offset from said central axis." Pulfrey clearly teaches that annular cylindrical permanent magnet 28 and voice coil 30 are coaxial with the central axis. Thus this teaching of Pulfrey fails to teach the recited "second axis radially offset from said central axis." Accordingly, claim 1 is allowable over the combination of Pulfrey and Saik et al.

The FINAL REJECTION states at page 2, lines 18 to 22:

"The examiner asserts that this does not equate to the voice coil being radially spaced offset from its own axis. The claims just recite a first unit and second disposed coaxially about an axis. First unit and second unit are not specific. The examiner is applying the same prior art to the claims. The examiner suggest the applicant make amendments to claim 1."

The amendment claim 1 should cure any confusion about axes. Claim 1 recites two axes: a central axis having a voice coil and speaker cone aligned; and a second axis having the first and second unit coaxially aligned. The second axis is recited as radially offset from the central axis. This language distinguishes from the combination of Pulfrey and Saik et al which teach only a central axis.

Claims 2 and 7 are allowable be dependence upon allowable claim 1.

Claims 3 and 4 were ruled allowable except for dependence upon rejected base claim 1. These claims are now allowable because amended base claim 1 is allowable.

Claims 8 and 21 are allowed.

The Applicants respectfully submit that all the present claims are allowable for the reasons set forth above. Therefore early entry of this amendment, reconsideration and advance to issue are respectfully requested.

If the Examiner has any questions or other correspondence regarding this application, Applicants request that the Examiner contact Applicants' attorney at the below listed telephone number and address to facilitate prosecution.

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Respectfully submitted,

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